



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/834,424	04/13/2001	Stuart L. Schreiber	331D USD1	5917

7590

07/15/2005

Brenda Herschbach Jarrell, Ph.D, Choate, Hall
& Stewart, Exchange Place,
53 State Street
Boston, MA 02109

EXAMINER

VOGEL, NANCY S

ART UNIT

PAPER NUMBER

1636

DATE MAILED: 07/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/834,424	Applicant(s) SCHREIBER ET AL.	
	Examiner Nancy T. Vogel	Art Unit 1636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/3/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 8-29 are pending in the case.

Receipt of the Information Disclosure Statement of 1/3/05 is acknowledged.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Wold (Methods in Enzymology, Vol. 11, pp. 617-640, 1966).

This rejection is maintained essentially for the reasons made of record in the previous Office action, mailed 11/2/04.

Applicant's arguments filed 4/25/05 have been considered but have not been found convincing.

Applicants has argued that Wold do not disclose methods that involve an agent that "*binds* non-covalently to tow or more endogenous protein mediators. Instead, both Wold and Ji teach bifunctional reagents that *react with* and therefore form *covalent* bridges within or between proteins" (page 8 of the arguments). Applicant maintains that such covalent bonds are not encompassed by the claim language, which recites that the

agent "binds to one of the cell surface receptor molecules". However, it is maintained that there is no such limitation in the claims to exclude covalent binding of the agent to the cell surface receptor molecules; contrary to applicant's arguments, the term "binds" does not exclude covalent binding. Therefore, the rejection is maintained.

Claims 8-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Ji. (Methods in Enzymology, Vol. 91, pp 580-609, 1983).

This rejection is maintained essentially for the reasons made of record in the previous Office action, mailed 11/2/04.

Applicant's arguments filed 4/25/05 have been considered but have not been found convincing.

Applicants have responded to the rejection over Ji together with the rejection over Wold, and therefore the same reply applies. Applicants has argued that Wold and Ji do not disclose methods that involve an agent that "*binds* non-covalently to tow or more endogenous protein mediators. Instead, both Wold and Ji teach bifunctional reagents that *react with* and therefore form *covalent* bridges within or between proteins" (page 8 of the arguments). Applicant maintains that such covalent bonds are not encompassed by the claim language, which recites that the agent "binds to one of the cell surface receptor molecules". However, it is maintained that there is no such limitation in the claims to exclude covalent binding of the agent to the cell surface receptor molecules; contrary to applicant's arguments, the term "binds" does not exclude covalent binding. Therefore, the rejection is maintained.

Claim Rejections - 35 USC § 112

Claims 8-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

This rejection is maintained essentially for the reasons made of record in the previous Office action, mailed 11/2/04.

Applicant's arguments filed 4/25/05 have been considered but have not been found convincing.

Applicants have argued at pages 9-10 of the response that it is to be taken as established in the art, that "the relevant biological events *necessarily* occur whenever the appropriate proteins are associated. Only imprecise association is required." Applicant goes on to discuss references which disclose instances where bivalent antibodies to a particular receptor successfully activated the receptor. While these references disclose such activation for particular instances, it is maintained that there is no disclosure therein that all binding "is necessarily a description of *effecting*" as applicant has argued at page 10. In particular, applicants quote a statement by Austin et al. at page 10. However, it is not understood how this statement supports applicants assertion that all and any agents that bind to a receptor, necessarily trigger a biological effect. Austin does not actually state this, and the quote set forth in page 10 simply

speculates that one can create dimerizers with "tailor made properties" that "simply create a high local concentration of a particular protein at a particular cellular location". Applicant further argues that in *Noelle v. Lederman*, 355 F. 3d 1343 (Fed. Cir. 2004), establishes that when an antigen is fully defined, the antibody is also described. Applicants further state that "the Examiner may resist application of the *Noelle* standard, however, on the ground that antibodies are all structurally related, whereas the present claims encompass use of oligomerizing agents with different chemical structures" (page 10). Applicants argue that the technologies for identifying small molecule ligands that bind to a given target were well established at the time the present application was filed, and cites references disclosing such methods as combinatorial library screening, and high-throughput screening systems. While it is acknowledged that such techniques of discovery have been known in the art, the desire to isolate new and useful compounds does not constitute a description of such compounds. *Vas-Cath V. Mahurkar*, 19USPQ2d 1111, clearly states "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of *the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed*." (See page 1117). The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is now claimed." (See *Vas-Cath* at page 1116). As discussed above, the skilled artisan cannot envision the detailed chemical structure of the encompassed genus of agents which will bind to two cell surface receptors in a manner which results in an effect on a biological event mediated by the association of said receptors, and therefore conception is not achieved

until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation or identification. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. Applicants further argue at pages 12-13 of the response, that the examiner may argue that the technology for identifying binding moieties may not be well established, but that such methods were well known.

However, as has been argued above, while methods of isolation may be known in the art, the existence of such methods of potentially isolating agents which meet the functional limitations of the claims is not sufficient to show that applicants had possession of the invention, ie. invented what is now being claimed. At page 13 of the response, Applicants again cite Qureshi and Tian, which were cited previously in the Appeal Brief filed 7/26/04, as showing that post-filing research has produced agents that meet the functional limitations of binding to two proteins and which serve to activate a biological pathway. Applicants argue that Qureshi and Tian are not relied on as evidence that the present specification teaches a sufficient number of representative examples, but rather "to provide objective evidence that only a small number of specific examples (only one!) is required to describe the present invention to those of ordinary skill in the art". However, as was previously argued in the Office action mailed 11/2/04, it is maintained that Qureshi and Tian disclosed oligomerizing agents that were not disclosed in the instant specification, and further which were not contemplated in terms of a structure-function relationship in the instant specification. The agents provided in the instant specification all relate back to immunophilin-receptor oligomerizing agents;

this is not commensurate in scope with the broad genus of agents that are indicated to be used in the claimed methods. It is important to note that the agents described in the instant specification bear no structural or functional relationship to the agents discovered by Qureshi and Tian; thus, the skilled artisan could in no way envision the use of those agents in the claimed method based upon the teachings of the instant specification. This again establishes a lack of Written Description. Therefore, applicant's arguments have not been found convincing, and the rejection is maintained.

Conclusion

No claims are allowed.

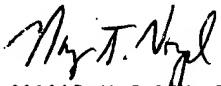
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nancy T. Vogel whose telephone number is (571) 272-0780. The examiner can normally be reached on 7:00 - 3:30, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Irem Yucel, Ph.D. can be reached on (571) 272-0781. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


NANCY VOGEL, PH.D.
PATENT EXAMINER